

WATER CONSERVATION NEWS

Department of Water Resources Division of Planning & Local Assistance Water Conservation Office

In this issue...

National Water Meeting 1

Highlights of Irvine Ranch Water District's Landscape Conservation Program 1

... on Plumbing and Philosophy 2

Agricultural Water Conservation Council Meets 3

New Publications 5

News Briefs 6

Controversy Over Ultra Low Flush Toilets 7

Neptune System a Conservation Success 8

Summary of Water-related Legislation 9

Water Conservation-Related Events in California 10

CIMIS Network News 12

National Water Meeting

Mark your calendar for September 17—19, 1997 to attend the Interstate Council on Water Policy's 1997 annual meeting at The Westin, Horton Plaza, San Diego. This national meeting will focus on a timely and relevant theme, "Interstate Water Management—New Trends in Water Allocation."

Interstate water issues continue to grow in importance. Many states share water since water tends to cross state and national boundaries. A state can no longer isolate itself from water issues of other states. ICWP will have an exciting annual meeting to address this issue and emphasize new directions in allocating water between states.

Cosponsors include the Department of Water Resources, Metropolitan Water District of Southern California, Coachella Valley Water District, Imperial Irrigation District, Association of California Water Agencies, and Water Education Foundation.

The ICWP program and registration packet will be mailed to everyone who receives this newsletter. If you do not receive your program and registration packet by mid August, or if your agency would like to be a cosponsor, call Lynda Dale Herren, DWR Conference Coordinator, at (916) 327-1654, or Dennis Letl, Conference Chair, at (916) 327-1764.

CIMIS

CIMIS data illustrates the major increase in vegetative water use in the East Bay Area since the 1997 rains—see "CIMIS Network News" on page 12.

Highlights of Irvine Ranch Water District's Landscape Conservation Program

Irvine Ranch Water District's BMP-oriented conservation programs have resulted in significant water and money savings for customers.

IRWD began the conservation programs in 1991 with an ascending block rate pricing structure. The rate structure required using separate meters for landscape and using customer group demand factors, including:

- ◆ residential—interior and exterior demands, and
- ◆ landscape—weather/ ETo and area.

In 1991, landscape irrigation customers were given allocations based on local ETo and the square footage of the site. The average

(continued on page 4)

Water Conservation News provides information on the latest developments in agricultural and urban water conservation programs. This is a free newsletter published quarterly by the California Department of Water Resources, Division of Planning and Local Assistance, Water Conservation Office.

For more information about DWR's water conservation programs, call Ed Craddock, Chief, Water Conservation Office, at (916) 327-1655; Greg Smith, Urban Water Conservation, at (916) 327-1619; or Baryohay Davidoff, Agricultural Water Conservation, at (916) 327-1788. Information is also available from any of the following DWR District staff:

X. Tito Cervantes
Northern District
 2440 Main Street
 Red Bluff, CA 96080-2398
 (916) 529-7399

Ed Morris
Central District
 3251 S Street
 Sacramento, CA 95816-7017
 (916) 227-7578

David Scruggs
San Joaquin District
 3374 E. Shields Avenue
 Fresno, CA 93726-6990
 (209) 445-5262

David Inouye
Southern District
 770 Fairmont Avenue
 Glendale, CA 91203-1035
 (818) 543-4600

We welcome any comments, suggestions, and story ideas; please send them to:

**Water Conservation News
 Editorial Staff**

Department of Water Resources
 Division of Planning and Local Assistance
 P. O. Box 942836
 Sacramento, CA 94236-0001

Telephone: (916) 327-1653
 Fax: (916) 327-1815
 E-mail: adyer@water.ca.gov

DWR does not endorse any of the businesses or consulting firms mentioned in this newsletter, since there may be others that offer the same or similar services.

... on Plumbing & Philosophy

by John Gardner

We must learn to honor excellence in every socially accepted human activity, however humble the activity. An excellent plumber is infinitely more admirable than an incompetent philosopher. The society that scorns excellence in plumbing because plumbing is a humble activity and tolerates shoddiness in philosophy because it is an exalted activity will have neither good plumbing nor good philosophy. Neither its pipes nor its theories will hold water.

Excellence (revised edition) 1984

AWMC Meeting

During the first meeting of the Agricultural Water Management Council, Roger Reynolds of Sommers Engineering and Richard Roos-Collins of the Natural Heritage Institute were elected Co-Chairs of the Council. The meeting took place in Sacramento on July 16, 1997. The Council's next business meeting is scheduled for August 20, 1997. (See next page for more details on the AWMC.)



Mission Statement of the Water Conservation Office

"To advance the efficient management and use of California's water resources in cooperation with other government agencies and the private sector through technical and financial assistance"



This newsletter is printed
 on recycled paper.



Editorial

By **Ed Craddock**

The first meeting of the Agricultural Water Management Council took place in Sacramento on July 16. The initial response has been gratifying, with over 60 signatories to the Agricultural MOU forming the initial Council. However, there are only three signatories from the environmental community.

One concern has been that the MOU may conflict with the U.S. Bureau of Reclamation's Central Valley Improvement Act Conservation Criteria. However, looking at the detail shows that there are many more similarities than differences with USBR's Criteria. USBR acknowledged that view in its Administrative Proposal on Water Conservation that states:

It is desirable for both the voluntary MOU and Reclamation's Criteria to be as consistent and complementary as possible, and that is our goal for the long term . . . It is our goal to have a single program in place by 1999, when the Criteria will be next reviewed and likely revised.

DWR intends to work very closely with USBR and stakeholders to ensure this happens.

Another question is how the Agricultural MOU interacts with CALFED. (CALFED is a joint effort among State and federal agencies with management and regulatory responsibilities to find resolution of Bay-Delta problems through consensus building.) Currently, CALFED's Water Use Efficiency Component identifies this voluntary process as only a part of its agricultural water use efficiency proposal. This is consistent with the way CALFED views the California Urban Water Conservation Council in its urban water use efficiency proposal.

After working in the resource conservation field for many years, I am very impressed with the success of the planning and implementation process of the Agricultural MOU. Let's work together to use the peer-review process embodied in the MOU (for endorsing water management plans) to resolve differences—not create divisions.

Highlights of Irvine Ranch Water District Landscape Conservation Program

(continued from page 1)

water use for landscape acres is shown in the table below.

IRWD's system has resulted in a 43-percent water reduction across landscape acres. The effort has been possible because of reliable data that gives water managers an appropriate water use target. Because of these IRWD conservation programs, Irvine landscapes appear healthier today than in previous years when no such programs were used. This is because the plants are receiving only the amount of water they need, based on weather conditions particular to the given area.

In addition to landscape benefits, customers are profiting from the programs because the decrease in water use has resulted in lower water bills, less landscape damage, and lower maintenance budgets. Because less water was purchased due to the conservation programs, water rates for all customers have been kept low—and IRWD has not raised water rates in four years.

IRWD's Program Mirrors BMP Guidelines

- ◆ Conservation pricing
- ◆ Separate meters
- ◆ Public education

Keys to IRWD's Success

- ◆ Ascending block rate structure
- ◆ Defensibility (based on science)
- ◆ Equity across different customer groups
- ◆ Education
- ◆ Landscape health maintained or improved
- ◆ Consistent message to customers which rewards water efficiency

IRWD Facts

- ◆ Meters—2,700 separate landscape meters
- ◆ Acres—6,250 landscape acres (schools; parks; streetscapes; homeowners associations; commercial, industrial, & retail sites; etc.)
- ◆ Population—140,000 customers
- ◆ Water sources—MWD (50 percent); groundwater (50 percent)
- ◆ Reclaimed water—serves 80 percent of all landscape acres

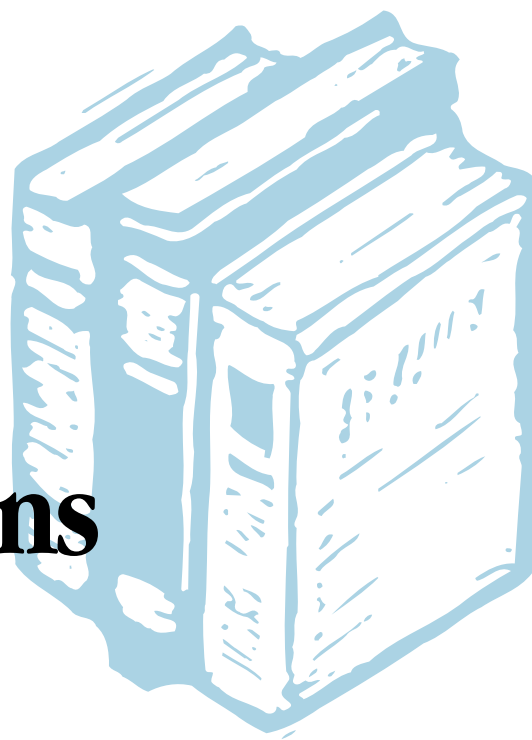
Year	Acre feet/year	Conservation Program
1990	4.4	No program
1991	3.8	Ascending block rate structure based on ET
1992	3.5	Education for landscape professionals
1993	3.3	Financial incentives for irrigation upgrades; education
1994	3.2	Continuing education and financial incentives
1995	2.5	Irrigation scheduling and meter reading software given to landscape contractors; education and financial incentives continued
1996	2.5	Education only
1997	2.6	Suspended financial incentives and education to monitor how customers respond without targeted programs

The effort has saved 46,000 acre-feet of water in 5 years at a cost of \$5 million for landscape upgrade incentives. The \$5 million spent on landscape irrigation was collected from over-water use penalties from wasteful customers. The funds go directly into conservation programs. The water savings translated into \$12 million in avoided water purchases for IRWD.

The conservation and rate structure programs have become positive tools in helping keep customers' water bills low. They have also been politically acceptable, as district board members have been re-elected every year since the programs started.

For more information, contact Tom Ash, Irvine Ranch Water District, at (714) 453-5324; e-mail ash@irwd.com.

New Publications



Water Facts 12—Water Conservation

This is a four-page updated fact sheet on water conservation issues of general interest. It includes information on urban and agricultural water conservation, as well as the California Irrigation Management Information System. Copies may be obtained at no charge by contacting DWR Bulletins & Reports, P.O. Box 942836, Sacramento, CA 94236-0001; 916/653-1097.

Layperson's Guide to Water Conservation—1997 Update

Part of a series of Layperson's Guides, this publication explores pertinent water issues in an objective, easy-to-understand manner. Copies may be obtained from the Water Education Foundation, 717 K Street, Suite 517, Sacramento, CA 95814; 916/444 6240.

Guidelines for Preparing Cost-Effectiveness Analysis of Urban Water Conservation Best Management Practices

This loose-leaf guidebook was prepared for the California Urban Water Conservation Council. It was designed to be used by the Council when determining the BMP implementation list and by water suppliers when substantiating a BMP exemption. The guidebook is also a useful tool for any water agency designing conservation programs by assessing cost-effectiveness and assisting in prioritization. Copies may be obtained free by contacting DWR Bulletins & Reports, P.O. Box 942836, Sacramento, CA 94236-0001; 916/653-1097.

Water Conservation

news

New CIMIS Station in Sacramento County

A new California Irrigation Management Information System station was installed on April 18, 1997 in Fair Oaks, California approximately 1 mile north of Nimbus Dam on the Phoenix Park grounds. It is owned by the Sacramento Area Water Works Association. Primarily used for irrigation scheduling, the data recorded at CIMIS stations is also used by individuals, companies, and agencies requiring basic weather data. For more information contact Mark Rivera at DWR's Central District at (916) 227-7603; e-mail mriviera@cd.water.ca.gov.

Drainage Reduction and Groundwater Quality in Kern County

Kern County Water Agency recently hosted a meeting with Lost Hills Water District, Buena Vista Water Storage District, U.S. Department of Agriculture—Natural Resources Conservation Service, Pond-Shafter-Wasco Resource Conservation District, Buena Vista RCD, Kern County Cooperative Extension, and DWR. These agencies are working on a proposal that will focus on expanding the Mobile Lab Program to reduce on-farm drainage through source control and improve fertilizer and pesticide management to minimize chemicals. For more information contact Arturo Carvajal at (916) 327 1622; e-mail arturoc@water.ca.gov.

Valmont Irrigation Earns ISO Registration

Valmont Irrigation, the world's leading manufacturer of mechanized irrigation equipment, recently became the first and only U.S. manufacturer of mechanized irrigation equipment to receive International Organization for Standardization 9001 registration. ISO registration, a key quality yardstick for manufacturers and suppliers, puts Valmont in an elite group of quality-conscious companies around the world. To earn certification, companies must

meet stringent quality standards developed by ISO. All processes which affect product quality are reviewed, documented, and approved. For over 40 years, Valmont products have been enhancing food production while conserving and protecting natural resources. Valmont has sold nearly 100,000 center pivots, linears, and corners worldwide—irrigating roughly 10 million acres in more than 90 countries. For more information contact Lori Hallowell at Bader Rutter & Associates at (402) 434-5307; e-mail ljhallowell@navix.net.

Leak Detection Class for Water Company

DWR recently provided a water audit and leak detection class for Surrey Village Water Company. Surrey Village is a small, residential neighborhood along the Sacramento River near Red Bluff. Three board members from the Company attended and requested technical assistance in leak detection and pipe locating. DWR provides training, equipment, and technical help to water purveyors in leak detection. However, the user must obtain technical training in operating the equipment. For more information in Northern California, contact Eugene Pixley at (916) 529-7392; e-mail pixley@nd.water.ca.gov; in Southern California, contact Kim Rosmaier at (916) 227-7584; e-mail krosmaie@cd.water.ca.gov.

California Irrigation Management Information System Data Ozone Study

The 1997 Southern California Ozone Study—NARSTO Measurement Coordination meeting was held in May at the South Coast Air Quality Management District Office. This meeting was the last prior to the onset of a study to update and improve existing aerometric and emission databases and model applications for representing urban-scale ozone concentration in Southern California. The Air Resources Board will obtain data from approximately 50 of the 94

briefs

CIMIS weather stations. For more information contact David Moellenberndt at (916) 327-1792; e-mail davidm@water.ca.gov.

NICE3 Soon Open to Grant Proposals

The U.S. Department of Energy announced that the 1998 edition of the National Industrial Competitiveness Through Energy, Environment, and Economics (NICE3) Program is open to grant proposals. The overall goal of NICE3 is to improve industry energy efficiency, reduce industry's costs, and promote clean production. Grants support technology development that can significantly conserve energy and energy-intensive feedstocks, reduce industrial wastes, prevent pollution, and improve industrial cost competitiveness. Grants fund up to 40 percent of total projects cost for up to 3 years. The 1998 solicitation will open on August 1, 1997 and will close on or around December 10, 1997. For more information, contact Charlie Pike at DWR at (916) 327-1649; e-mail cpike@water.ca.gov.

Controversy

Over Ultra-Low-Flush Toilets

The National Energy Policy Act of 1992 mandated that toilet tank capacity be reduced to 1.6 gallons.

However, there have been complaints that the new designs do not flush properly. As a result, some lawmakers were bombarded with inquiries. Congressman Joe Knollenberg of Michigan is



sponsoring federal legislation that will allow scientists and engineers to decide what water quantity per flush works best. The American Water Works Association contends that ULFTs are not a problem; however, as with any new technology, there are some poorly designed models on the market. AWWA's Water Conservation Division is requesting that letters be written to Congressman Knollenberg and Congressman Waxman of California in support of the 1992 NEPA. For more information contact Mary Ann Dickenson, Chair of AWWA's Water Conservation Division, at (213) 217-6799.

Neptune System a Conservation Success

Maytag's new horizontal-axis washer and matching dryer may have a potentially dramatic impact on water and energy savings. Testing proved that the new washing system significantly reduces energy and water use as compared to other systems of its kind. In fact, research shows that "Neptune's" annual savings is equivalent to one person's drinking water for a lifetime—and that its water and energy savings together save \$100 per year.

According to testing done by the Electric Power Research Institute and the Energy Division of Oak Ridge National Labs, the new washer saves 35-percent energy and 30-percent water—which translates into a savings of about 20 gallons of water per load.

Researchers also concluded that the dryer's rotations per minute during the spin cycle are much higher than current generation standard dryers—resulting in a 30-percent improvement in extraction.

More extensive research to test the machines' efficiency is planned. Maytag, along with EPRI and Department of Energy, will:

- ◆ collect baseline water and energy consumption data in Burns, Kansas;
- ◆ replace many of the washers with the Neptune; and
- ◆ measure the changes in consumption.

Maytag is confident that this study will support previous findings.

Although Neptune's conservation capabilities are applaudable, Maytag isn't planning on marketing it primarily as a high-efficiency product. Instead, they emphasize other features of the system such as:

- ◆ larger capacity,
- ◆ lower noise level and detergent requirement, and
- ◆ milder impact on fabrics.

Maytag's "Neptune" washer and dryer are already available in some areas. Contact your local appliance store for availability and price information—or call the Maytag corporate phone number at (515) 792-7000. You may also consult the Maytag home page at:

- ◆ http://neptune.Maytag.com/home_index.asp.

Summary of Water-related Legislation



◆ **AB 1180 (Battin) California Safe Drinking Water Bond Act of 1998**

Authorizes a general obligation bond ballot measure for the June 2, 1998 ballot for \$100 million for the safe drinking water program that would require public water systems to demonstrate adequate financial capability for delivering potable drinking water, establish a Safe Drinking Water Revolving Fund, and authorize adoption of emergency regulations by Department of Health Services.

Status: Assembly Committee on Appropriations

◆ **SB 543 (Costa) DWR Loans and Grants**

Authorizes loans from the 1986 Water Conservation and Water Quality Bond Fund and the 1988 Water Conservation Fund for approved projects.

Status: Assembly Committee on Appropriations

◆ **SB 1082 (Kelley) Water Conveyance Facilities**

Requires the Director of DWR to assist with the Colorado River Board, and six California Water Agencies receiving water from the Colorado River, to develop a plan to ensure California stays within the 4.4 million-acre-foot annual entitlement from the Colorado River. Also requires the Director to issue a recommendation within 30 days of August 15, 1997 specifying the terms and conditions of the transfer of water between San Diego County Water Authority and Metropolitan Water District of Southern California.

Status: Assembly Floor



Water Conservation-Related Events

◆ July 26—August 8, 1997

Designer/Manager School of Irrigation Courses

Cal Poly State University, San Luis Obispo

Cost: \$95—\$360

Telephone: (805) 756-2434

These 12 short courses offered under the Designer/Manager School of Irrigation fall under three main categories:

(1) agriculture/landscape, (2) agriculture, and (3) landscape. Specialized topics include microirrigation for landscape, row crop drip irrigation, and basic pipeline hydraulics.

◆ August 11, 1997

BMP Revision Workshop

Burbank Hilton, Burbank

Cost: Free

Telephone: (916) 552-5885

This Best Management Practices Revision Workshop will be held from 8:30 a.m. to 3:00 p.m.

◆ August 12, 1997

BMP Revision Workshop

Kern County Water Agency, Bakersfield

Cost: Free

Telephone: (916) 552-5885

This Best Management Practices Revision Workshop will be held from 8:30 a.m. to 3:00 p.m.

◆ August 13, 1997

BMP Revision Workshop

Holiday Inn, South San Francisco

Cost: Free

Telephone: (916) 552-5885

This Best Management Practices Revision Workshop will be held from 8:30 a.m. to 3:00 p.m.

◆ August 14 & 15, 1997

Water Conservation Information Committee

Radisson Inn, Folsom

Cost: Free

Telephone (916) 351-1500

For more information, call Julie Spezia, U.S. Bureau of Reclamation at (916) 979-2318.

The theme of this meeting will be Water Conservation and Watershed Management, and includes a Folsom Dam tour and a white-water rafting trip on the South Fork of the American River.

◆ September 10—12, 1997

Irrigation System Evaluation Short Course

Cal Poly State University, San Luis Obispo

Cost: \$200

Telephone: (805) 756-2434

This is a repeat of the excellent 2-1/2 day March 1997 Short Course emphasizing efficiency definitions and techniques of evaluation for distribution uniformity. Topics range from how to take a pressure measurement to what specific measurements are needed to evaluate and “tune up” six distinct irrigation methods. Software is included.

◆ September 17—19, 1997

Interstate Council on Water Policy Meeting

The Westin, San Diego

Cost: To be announced

For more information contact Lynda Dale Herren at (916) 327-1654 or Dennis Letl at (916) 327-1764.

This three-day meeting will focus on “Interstate Water Management—New Trends in Water Allocation.” It is cosponsored by DWR, Metropolitan Water District of Southern California, Coachella Valley Water District, and Association of California Water Agencies. (See page 1.)

◆ **September 24–26, 1997**

Northern California Water Facilities & Fisheries Tour

Cost: by August 29th—\$500 for one person, single occupancy; \$900 for two people, double occupancy (after August 29th—\$550 for one person; \$1,050 for two people)
For more information contact the Water Education Foundation at (916) 444-6240.

This three-day tour provides an opportunity to view significant water features between Sacramento and Redding which directly affect the quantity and quality of water used in both northern and southern California. It is sponsored by Water Education Foundation, DWR, U.S. Bureau of Reclamation, and the UC Cooperative Extension.

◆ **September 30, 1997**

CUWCC Plenary Session

Contra Costa Water District, Concord

Cost: Free

Telephone: (916) 552-5885

The California Urban Water Conservation Council will vote on Best Management Practices Revisions during this session.

◆ **September 29–30, 1997 (Level 1 Training)**

◆ **October 17, 1997 (Level 1 Testing)**

AWWA Water Conservation Certification Program

Southern California Water Company
2143 Convention Center Way, Suite 110
Ontario, California 91764

Testing fees: \$50 for AWWA members; \$65 for nonmembers
For more information contact Josie Barron, AWWA, at (909) 930-1200

◆ **October 6–7, 1997 (Level 1 Training)**

◆ **October 20, 1997 (Level 1 Testing)**

AWWA Water Conservation Certification Program

East Bay Municipal Utility District
375 11th Street

Second Floor Training Center
Oakland, California 94607

Testing fees: \$50 for AWWA members; \$65 for nonmembers
For more information contact Josie Barron, AWWA, at (909) 930-1200.

◆ **October 22 & 23, 1997**

The Western Nursery & Garden Expo

The Sands Expo Center, Las Vegas, Nevada

Cost: Free if bought in advance, \$5 at the door

For more information contact Margo Jonsson at (800) 517-0391.

The second annual Western Nursery & Garden Expo will last two days and cover many aspects of the gardening industry including plants, hard goods, equipment, and gifts. The event will feature over 600 local, national, and international exhibitor booths; a national computer mart; and seminars sponsored by the California Association of Nurserymen and the American Association of Nurserymen (see next event).

◆ **October 22, 1997**

The Western Nursery & Garden Expo

Educational Seminars

The Sands Expo Center, Las Vegas, Nevada

Cost: \$20—\$50 if paid for before September 10, 1997

For more information contact Carol Hutchings at (800) 517-0391.

Eight industry seminars will be offered at the second annual Western Nursery & Garden Expo. The Western Expo Professional Seminar Tracks will provide educational information for both retail and landscape professionals. Some of the seminars include retail nursery seminars, industry trends, and general landscape seminars.

◆ **December 10, 1997**

CUWCC Plenary Session

Municipal Water District, Orange County

Cost: Free

Telephone: (916) 552-5885

California Urban Water Conservation Council Meeting for all signatories and interested parties.

◆ **February 3 & 4, 1998**

“Irrigation in California—What is its Future?”

Holiday Inn Centre Plaza, Fresno, California

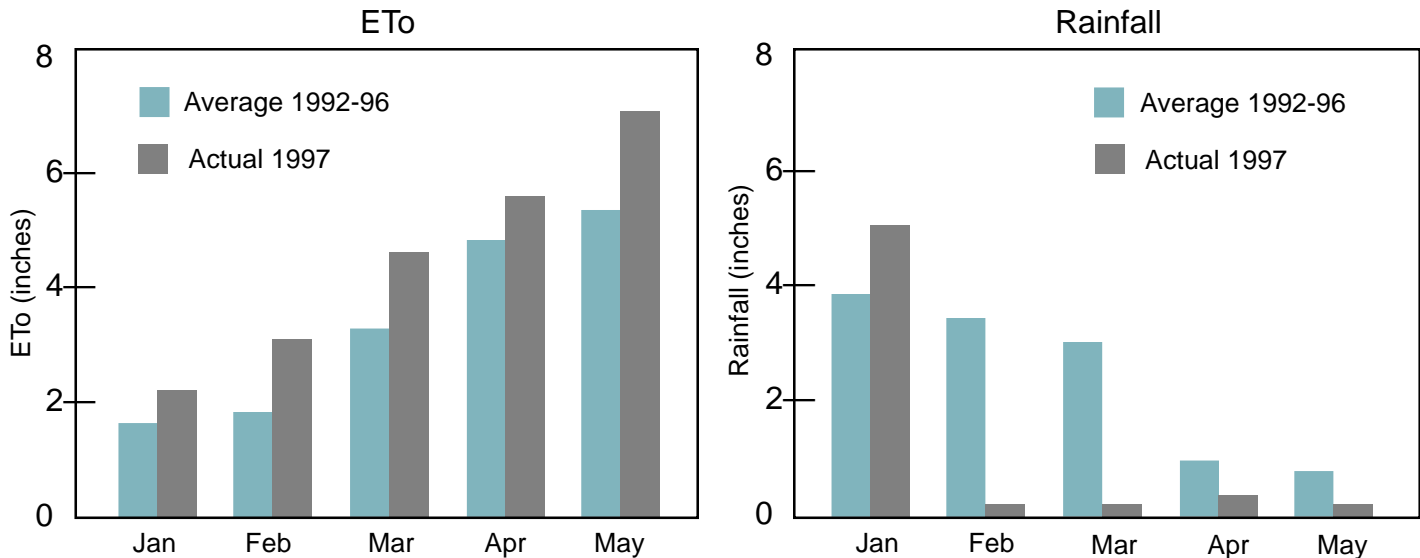
Cost: \$120

Telephone: (916) 366-9376

The 36th annual meeting of the California Irrigation Institute to educate those within and outside of the irrigation industry about all facets of irrigation in California.

CIMIS Network News

CIMIS Monthly Reference Evapotranspiration (ETo) and Rainfall for Fremont Station 100 Average for 1992-96 and Actual for 1997



The charts above show monthly ETo (water use index) and rainfall for Fremont. From these charts, we see that even though there was significant rainfall in January 1997, the total rainfall for the five months was only 50% of the five-year average. Water use by vegetation for the five months in 1997 was higher than the five-year average by 34%. This translates to an almost 53% increase in applied water to meet vegetative demand (assuming precipitation at 25% effective and irrigation efficiency of 70%).

ETo is an estimate of water use of grass that provides an index of water use for all kinds of vegetation. ETo is estimated by weather stations that are part of the California Irrigation Management Information System (CIMIS).

CIMIS data is available to the public at no charge. For more information on CIMIS, visit our web site at <http://wwwdla.water.ca.gov/cgi-bin/cimis/hq/main.pl>, or contact DWR staff listed on the inside front cover of this newsletter.



Bulk Rate
U.S. Postage Paid
Permit No. 2310
Sacramento, CA

P. O. Box 942836
Sacramento, CA 94236-0001
Address Correction Requested

WATER CONSERVATION NEWS